

## Claims:

- 1                   1.     A non-porous graft adapted to be secured to a stent  
2     surrounding said graft, said graft comprising:  
  
3                   an inner layer of a non-porous material;  
  
4                   an outer layer of material laminated to said inner layer; and  
  
5                   a fastening element adapted to be secured to said stent, wherein said  
6     fastening element is fixed between said inner layer and said outer layer.
- 1                   2.     The graft as recited in claim 1 comprising a plurality of said  
2     fastening elements distributed lengthwise and/or circumferentially on said graft.
- 1                   3.     The graft as recited in claim 1, wherein said graft is attached to  
2     an inside surface of the stent with said fastening elements projecting through the  
3     stent and a linear locking element through said fastening elements, wherein said  
4     linear locking element is secured to the stent at at least two points along a length of  
5     the stent.
- 1                   4.     The graft as recited in claim 1, wherein said fastening elements  
2     comprise D-shaped rings.
- 1                   5.     The graft as recited in claim 1, wherein the material of said  
2     inner layer is expanded polytetrafluoroethylene.

1                   6.     The graft as recited in claim 1, wherein the material of said  
2 outer layer is polyester.

1                   7.     The graft as recited in claim 1, wherein the material of said  
2 outer layer is knitted, woven, or braided.

1                   8.     The graft as recited in claim 1, wherein the material of said  
2 fastening elements is a radiographically differentiable material.

1                   9.     The graft as recited in claim 1, wherein the material of said  
2 linear locking elements is a radiographically differentiable material.

1                   10.    A non-porous tubular graft adapted to be secured to a stent  
2 surrounding said graft, said graft comprising:

3                   an inner layer of a non-porous material; and

4                   an outer layer of knitted, woven, or braided material laminated to said  
5 inner layer, wherein said outer layer includes a plurality of fastening elements  
6 extending outwardly from said outer layer along a length of said outer layer of said  
7 tubular graft, at least some of said fastening elements adapted to be secured to a  
8 stent surrounding said graft.

1                   11.    The graft as recited in claim 10, wherein said fastening  
2 elements comprise D-shaped rings.

1                   12.    The graft as recited in claim 10, wherein the material of said  
2 inner layer is expanded polytetrafluoroethylene.

1                   13.     The graft as recited in claim 10, wherein the material of said  
2     outer layer is polyester.

1                   14.     The graft as recited in claim 10, wherein the material of said  
2     outer layer is knitted, woven, or braided.

1                   15.     A stent-graft for defining a fluid passageway in a body lumen,  
2     said stent-graft comprising:

3                   a stent; and

4                   a graft, said graft comprising;

5                   an inner layer of a non-porous material;

6                   an outer layer of knitted, woven, or braided material laminated  
7     to said inner layer; and

8                   a plurality of fastening elements, wherein at least a part of each  
9     fastening element is fixed between said inner layer and said outer layers

10                  said stent surrounding said graft and secured thereto through said  
11     fastening elements.

1                   16.     The stent-graft as recited in claim 15, wherein said graft is  
2     attached to said stent with said fastening elements projecting through said stent and  
3     a plurality of looped locking elements securing said fastening elements to said stent.

1                   17.     The graft as recited in claim 15, wherein said graft is attached  
2     to said stent with said fastening elements projecting through said stent and a linear  
3     locking element through said fastening elements, wherein said linear locking element  
4     is secured to said stent at at least two points thereof.

1                   18.     The stent-graft as recited in claim 15, wherein said fastening  
2     elements comprise D-shaped rings.

1                   19.     The stent-graft as recited in claim 16, wherein the material of  
2     said looped locking elements is a radiographically differentiable material

1                   20.     A stent-graft for defining a fluid passageway in a body lumen,  
2     said stent-graft comprising:

3                   a stent; and

4                   a graft, said graft comprising;

5                   an inner layer of a non-porous material; and

6                   an outer layer of knitted, woven, or braided material laminated  
7     to said inner layer, wherein said outer layer includes a plurality of fastening  
8     elements extending outwardly from said outer layer along a length of said  
9     outer layer of said graft, at least some of said fastening elements adapted to  
10    be secured on an outer surface of the stent surrounding said graft, at least a  
11    part of each said fastening element being disposed between said inner layer  
12    and said outer layer.

1                   21.    The stent-graft as recited in claim 20, wherein said graft is  
2    attached to said stent with said fastening elements projecting through said stent and  
3    a plurality of looped locking elements secured to said stent by knotted loops of  
4    suture material.

1                   22.    The stent-graft as recited in claim 20, wherein said graft is  
2    attached to said stent with said fastening elements projecting through said stent and  
3    a linear locking element through said fastening elements, wherein said linear locking  
4    element is secured to said stent at at least two points along a length of said stent.

1                   23.    A method of making a non-porous tubular graft comprising the  
2    steps of:

3                    securing a plurality of fastening elements extending through an outer  
4    layer of knitted, woven, or braided material along a length of the outer layer,  
5    wherein the fastening elements extend outwardly from the outer layer;

6                    placing an inner layer of non-porous material within the outer layer  
7    such that an underside of each fastening element is positioned between the inner  
8    layer and the outer layer; and

9                    laminating the outer layer to the inner layer to form the non-porous  
10   tubular graft.